

REMARKS

Claims 1-20 are in this application and are presented for consideration. By this Amendment, Applicant has amended claims 1, 8 and 15.

Applicant wishes to thank the Examiner for the interview conducted August 1, 2007. During the interview, the features of the amended claims were discussed in view of the cited prior art reference Szentmihaly. The Examiner agreed that Szentmihaly does not disclose a bead that is aligned with a center point of a groove of an internal element. The Examiner further stated that Szentmihaly does not disclose that the inner surface of abutment 15 is in contact with the hose. As such, the Examiner stated that the changes to the claims as now submitted overcome Szentmihaly.

Claims 1-4, 6, 8-12 and 15-19 have been rejected under 35 U.S.C. 102(b) as being anticipated by Szentmihaly (US 4,106,526).

The present invention relates to a compression fitting for pipes. The compression fitting comprises an internal element and an external sleeve. An external surface of the internal element and an inner cylindrical surface of the external sleeve are in contact with the pipe. An external surface of the external sleeve forms at least one circumferential bead. The external surface of the internal element defines at least one groove. The circumferential bead is aligned with the center point of the groove. The fact that the circumferential bead is centered with the groove is significant in the present invention because it advantageously allows a complete deformation of the pipe so that the pipe assumes the shape of the groove without any substantial reduction of the pipe's wall thickness. This advantageously provides a strong

connection between the pipe and the internal element that is highly reliable both for mechanical resistance against withdrawal and for hydraulic seal. The prior art as a whole fails to disclose such advantages.

Szentmihaly discloses a hose end unit comprising a reinforced hose end portion having an inner cylindrical elastomeric liner and a reinforcement layer and an end fitting. The end fitting comprises an insert 10 formed integrally with a nipple 11 to enter into the end portion of the hose. A plurality of radially inward projections are provided on the ferrule 12 and the ferrule 12 is swaged around the insert 10 so that the hose end portion is gripped between the insert 10 and the ferrule 12 by the projections. The insert 10 is provided with an annular groove 14 which receives a radially inwardly extending annular abutment on the ferrule 12. The insert is provided with radially outwardly extending annular projections 20 to grip the hose end portion 16. Radially inwardly extending abutments 25 are separated by depressions 26. The abutments 25 are arranged slightly offset from projections 20 on the insert.

Szentmihaly fails to teach and fails to suggest a pipe that is in contact with an inner cylindrical surface of an external sleeve and an external surface of an internal element. At most, Szentmihaly discloses an insert 10 that is provided with an annular groove 14 which receives a radially inwardly extending annular abutment 15 on the ferrule 12. As clearly shown in Figures 1-4, the inner surface of the annular abutment 15 is not in contact with a surface of the hose as claimed. In the present invention, the inner cylindrical surface of the external sleeve and the external surface of the internal element are in contact with the pipe. This is an essential feature of the present invention because it ensures that the pipe is securely anchored within the

groove of the internal element when the pipe is deformed so a tight hydraulic seal is maintained. This also advantageously provides that the strength of the pipe is maintained since the pipe maintains a constant wall thickness even after the pipe has been deformed by the external sleeve. Szentmihaly does not disclose such an advantage since the inner surface of the annular abutment 15 is not in contact with the hose and is only in contact with the nipple 11. This provides the disadvantage that the hose is not uniformly deformed so that a constant wall thickness is not obtained. As such, the prior art fails to teach important aspects of the claimed combination.

Further, Szentmihaly fails to teach or suggest a circumferential bead that is aligned with a center point of a groove defined by an external surface of an internal element as claimed. Szentmihaly discloses abutments 25 that are offset from projections 20 on the insert 10. This does not provide a satisfactory deformation of a rigid or semi-rigid pipe since the offset arrangement of the abutments and projections causes the material to axially flow into the free space formed by the abutments and projections. This disadvantageously reduces the hose wall thickness in the area of the projections and increases the pipe wall thickness in the area of the grooves. In contrast to Szentmihaly, each bead of the present invention is aligned with a center point of each groove. This advantageously distributes the forces onto the pipe wall so that any stress to the pipe and any possible breakage of the pipe are avoided. This provides for the advantage that the pipe wall is allowed to deform to exactly match the shape of the grooves of the internal element while maintaining a constant wall thickness. This advantageously ensures a tight hydraulic seal without diminishing the strength of the pipe. Szentmihaly clearly shows in Figure 5 that each abutment 25 is offset from each projection 20 so that each abutment 25

is not aligned with the center point of the groove formed by the projections 20. As such, the reference as a whole takes a different approach and does not suggest the features of the claimed combination. Accordingly, Applicant respectfully requests that the Examiner favorably consider claims 1, 8 and 15 as now present and all claims that respectively depend thereon.

Claims 2, 7, 10, 14 and 17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Szentmihaly. As discussed above, Szentmihaly does not teach or suggest a pipe that is in contact with an inner cylindrical surface of an external sleeve and an external surface of an internal element or a circumferential bead that is aligned with a center point of a groove. As such, the reference does not teach or suggest the combination of features claimed. One of ordinary skill in the art is presented with various concepts, but these concepts do not provide any direction as to combining the features claimed. All claims define over the prior art as a whole.

Favorable consideration on the merits is requested.

Respectfully submitted
For Applicant,

A handwritten signature in black ink, appearing to read 'John James McGlew', with a stylized flourish extending to the right.

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